

Determining Marine Boundaries

It's not what it used to be

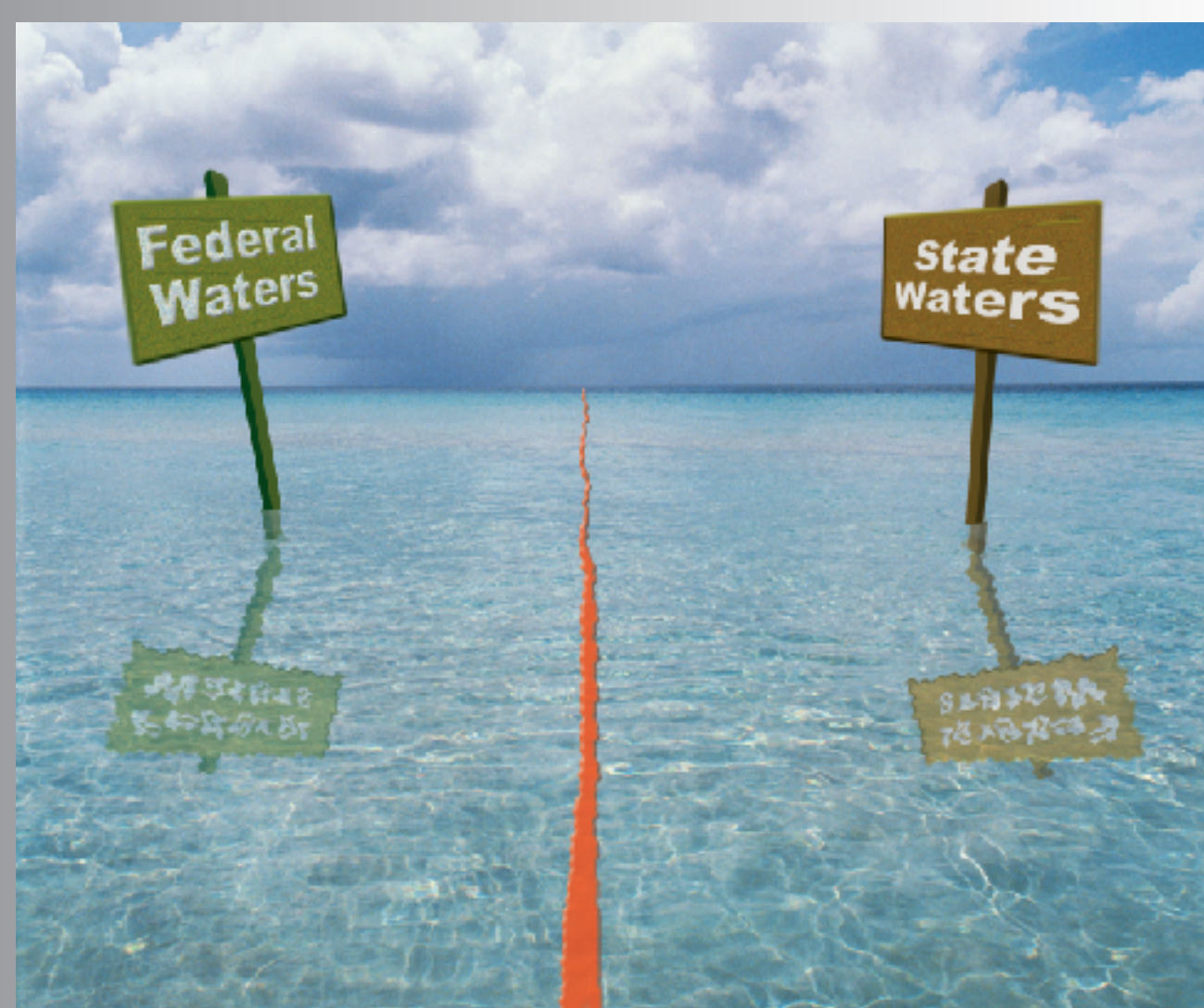
Marine Boundary Setting Yesterday and Today



Historically, ocean tenure has been held by the country with the largest naval fleet and the desire to control "its" waters. Boundaries often were defined as the reach of the most powerful cannon from land. As recently as 25 years ago, NOAA nautical charts rarely depicted a maritime boundary of any type.

Times have changed. Technological advances in surveying, mapping, and data collection have greatly improved man's ability to determine his exact position on earth. Maritime transportation-related companies use the Global Positioning System (GPS), geographic information systems (GIS), and electronic charting display information systems to determine and document exact locations in the ocean. Even pleasure boaters are making use of onboard GPS devices.

The stakes are rising when it comes to the importance of a cadastre, which is a record of interests in land (or water) encompassing both the nature and the extent of those interests. Cadastral boundaries are necessary for the enforcement of a myriad of laws that have to do with commerce, natural resources, property rights, research, law enforcement, and environmental policies. The need for official, accurate, useable, and accessible digital boundaries to define jurisdictional claims is unprecedented for business in today's ocean.



The state seaward limit is situated three nautical miles from the baseline from which the territorial sea is measured. However, without modern technology, it is difficult in the marine environment to determine the exact point at which one crosses this boundary.

Creating Digital Boundaries

NOAA's National Ocean Service (NOS) is responsible for charting the nation's coastal waters and, therefore, is the lead agency for portraying the maritime limits of the United States. Marine boundaries may be classified as national in scope. Examples of national boundaries are the Territorial Sea, Contiguous Zone, and the Exclusive Economic Zone. A site-specific boundary includes cadastre for parks, sanctuaries, and lease blocks for oil and gas or aquaculture.

Currently, digital ocean cadastral boundaries are not legally recognized. Boundaries exist in hard copy (paper form) only on NOAA nautical charts, treaties, and within the U.S. Code of Federal Regulations.

NOAA is working with the Minerals Management Service to determine a digital baseline from which the State Seaward line, Territorial Sea, Contiguous Zone, Exclusive Economic Zone and other boundaries can be calculated. The two agencies will then look to the Interagency Committee on the Delimitation of the United States Baseline, commonly referred to as the Baseline Committee, for official recognition of these digital data.

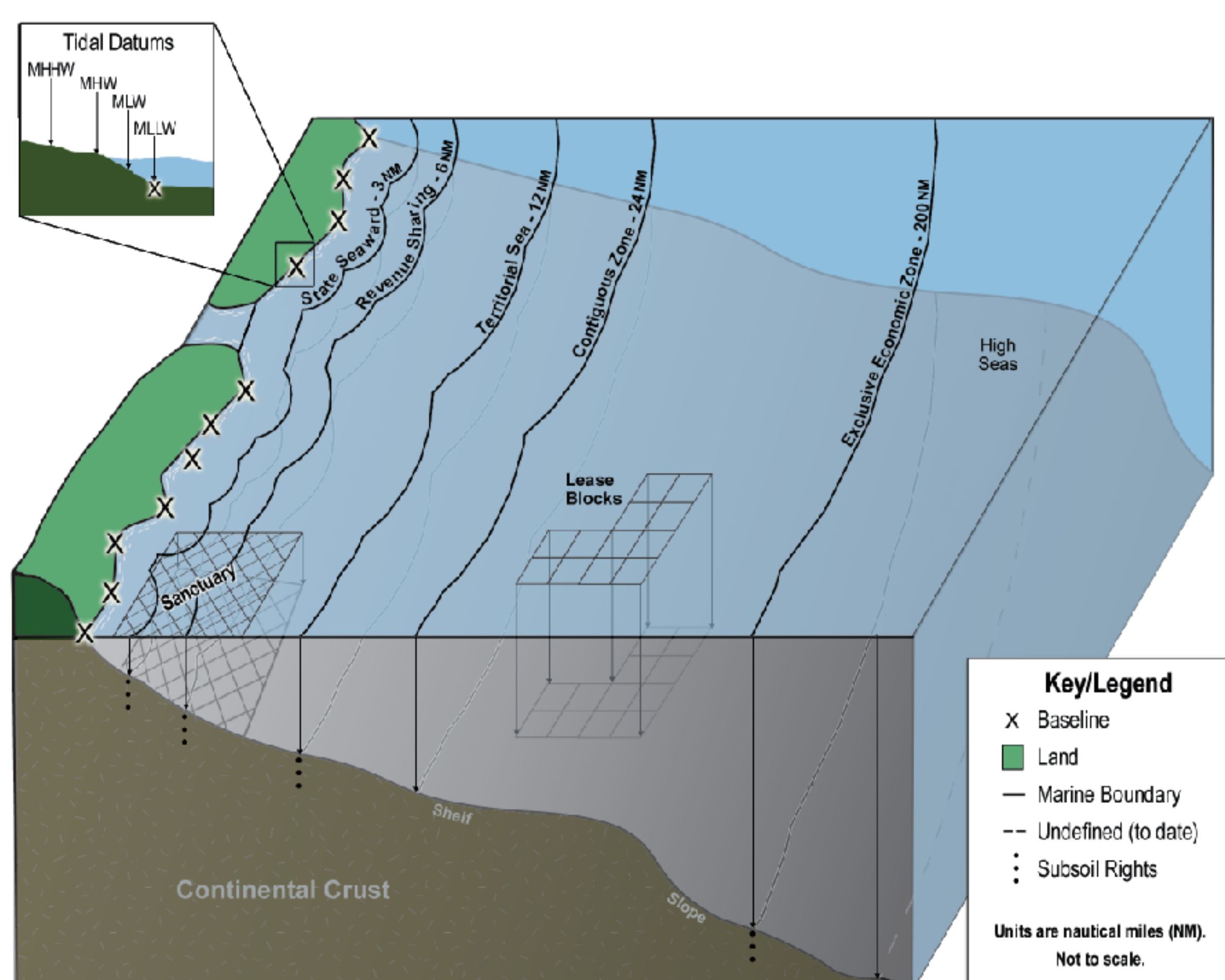


National Marine Sanctuaries use buoys to demarcate boundaries for marine management areas subject to access restrictions such as no-access buffer zones, no-motor zones, idle speed only and no wake zones, and closed zones.



Maritime limits depicted on NOS nautical chart of St. George Island of the Pribilof Islands, Alaska (1990 Edition)

National Boundary Explanations



Tidal Datums - Mean Higher High Water (MHHW), Mean High Water (MHW), Mean Low Water (MLW), and Mean Lower Low Water (MLLW) are examples of tidal datums (i.e., vertical datums defined by a phase of the tide). In the U.S., the MLLW is the baseline from which more seaward boundaries are measured.

Baseline Points - The Xs represent the salient points of the baseline (MLLW) used in the calculation of the offshore boundaries. The straight portion, across the bay, is a closing line used to separate inland water bodies from the open sea and is also used in the calculation of the offshore boundaries.

Sanctuary - National Marine Sanctuaries, and other marine protected areas, often transcend federal and state jurisdictional boundaries, and may extend to the seafloor and subsoil resources.

State Seaward - Limit is generally situated 3 nautical miles from the baseline, although several U.S. states and commonwealth boundaries extend to 9 nautical miles. This limit may be fixed by a Supreme Court decree for Submerged Lands Act purposes. May be referred to as the Submerged Lands Act boundary, federal/state boundary, or the natural resources boundary.

Revenue Sharing - Zone extends 3 nautical miles beyond the state seaward limit. Also referred to as the Limit of the "8(g) Zone".

Territorial Sea - Extends 12 nautical miles from the baseline.

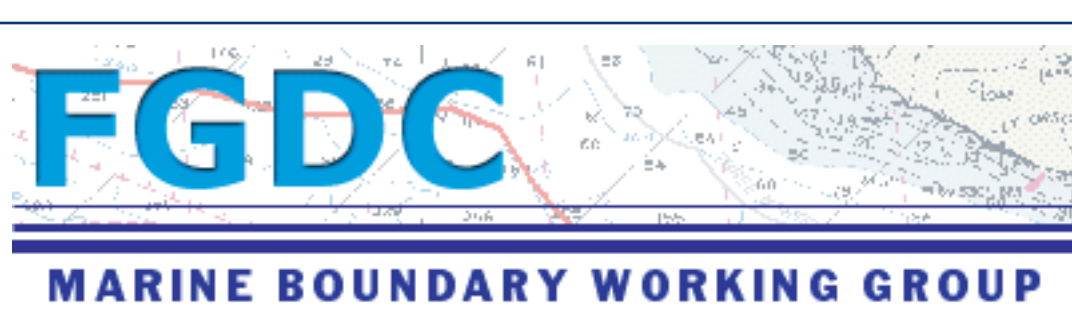
Contiguous Zone - In the U.S., this zone begins at the seaward limit of the territorial sea and extends seaward 24 nautical miles from the baseline (Presidential Executive Order on September 2, 1999).

Lease Blocks - Units that define subdivisions of the outer continental shelf within U.S. jurisdiction for the purpose of mineral leasing.

Exclusive Economic Zone - Extends from the seaward limit of the territorial sea to 200 nautical miles beyond the baseline from which the territorial sea is measured, or to a maritime boundary agreed upon by international treaty.

High Seas - The open ocean waters beyond the EEZs of nations. The zone does not include the EEZ, territorial sea, contiguous zone, archipelagic, or internal waters.

Continental Shelf - Under international law, the Continental Shelf is defined to include the seabed and subsoil beyond the continental margin out to a distance of 200 nautical miles from the baseline.



What is the United States' Response to Marine Boundary Issues?

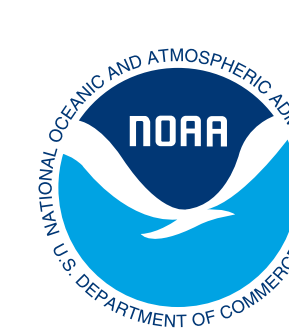
Federal Geographic Data Committee (FGDC) Marine Boundary Working Group

To address marine boundary issues, numerous government agencies are working together and combining their talents, expertise, and resources through the FGDC Marine Boundary Working Group. This group is

- Developing standardized methodologies to produce better marine boundary data
- Standardizing the legal, scientific, and technical terms used to describe marine boundaries
- Working together to maximize resources and avoid duplication of effort
- Creating dissemination mechanisms for marine boundary data

Participating agencies include the U.S. Minerals Management Services, the National Oceanic and Atmospheric Administration, the National Park Service, the U.S. Fish and Wildlife Service, the National Imagery and Mapping Agency, the Federal Communications Commission, the Census Bureau, the U.S. State Department, the U.S. Navy, the U.S. Coast Guard, and Bureau of Land Management, and the State of Florida.

For more information, visit www.csc.noaa.gov/mbwgf/.



NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY